

0069171

**SAF-RC-001**  
**Industrial Hygiene Sampling**  
**FINAL DATA**

**NO DISTRIBUTION REQUIRED**

**COMMENTS:**

SDG 06I-0081-01 SAF-RC-001

Rad only   X   Chem only   Rad & Chem

X Complete   Partial

**300 Area 3720 Bldg**

**RECEIVED**  
MAR 29 2006  
**EDMC**



## Cover Page

Page 1 of 8

Report Identification Number: 06I-0081-01  
Subcontract Number: 0000X-BO-G0058-B-Mod#4  
Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby  
Laboratory Identification Number: DCHM  
SAF#: RC-001 / R37200 1000  
Payroll#: 8C292



### Sample Information

Sample Date	Customer Sample Number	Laboratory Sample Number	Method	Analytical Batch Identification	Sample Matrix
05 Jan 2006	J10R48	06I00592	NMAM 7300M	G060900M	MCE
05 Jan 2006	J10R47	06I00593	NMAM 7300M	G060900M	MCE
05 Jan 2006	J10R50	06I00594	NMAM 7300M	G060900M	MCE
05 Jan 2006	J10R45	06I00595	NMAM 7300M	G060900M	MCE
05 Jan 2006	J10R46	06I00596	NMAM 7300M	G060900M	MCE

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Name: Joanna C. Sanchez  
Title: Chemist  
Date: January 13, 2006



## Case Narrative Page

Page 2 of 8

Report Identification Number: 06I-0081-01  
Subcontract Number: 0000X-BO-G0058-B-Mod#4  
Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby  
Laboratory Identification Number: DCHM  
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**General Set Information:** There are 5 samples in set 06I-0081-01, 3 samples in set 06I-0082-01 and 5 samples in set 06I-0083-01 which were analyzed for beryllium, lead and cadmium on MCE filter. No problems were encountered with the receipt of these samples and no contact with the CTR was required.

**Method Summary:** Samples were transferred to 50 ml centrifuge tubes and digested in the presence of 10 mL of 1:1 (v/v) nitric acid. Samples were digested in a hot block set at 110°C for 40 minutes. Samples were then diluted to a 25 mL volume with ASTM Type II Water. Samples were shaken and delivered for ICP analysis.

**Sample Preparation:** All samples were prepared in accordance with DCL SOP "IH-AN-021" and NIOSH method NMAM 7300 modified for hot block digestion.

**Holding Times:** The holding times were met for both sample preparation and analysis.

**Instrument Calibration:** Instrument calibration was performed in accordance with NIOSH method NMAM 7300.

**Initial and Continuing Calibration Verification Analysis:** Beryllium, cadmium and lead recoveries in all Initial Calibration Verification (ICV) and Continuing Calibration Verification (CCV) samples are within the quality control limits of +/- 10%.

**Initial and Continuing Calibration Blank Analysis:** No beryllium results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 0.01 ug/sample. No cadmium results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 0.06 ug/sample. No lead results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 0.5 ug/sample.

**Method Blank Analysis:** No beryllium, cadmium or lead was found in the media blank sample above the Contract Required Detection Limit (CRDL).

**Dilution(s):** NA.



## Case Narrative Page

Page 3 of 8

**Laboratory Control Sample and Duplicate Analysis:** One Laboratory Control Sample (LCS) and one Laboratory Control Sample Duplicate (LCSD) were prepared and analyzed with the sample batch. The LCS result was within the control limit of +/- 20%. The Relative Percent Differences (RPD) between the LCS and the LCSD was within the control limit of 20%.

**Replicate Analysis:** Two samples were replicated with this analysis run. The RPD between the samples and the replicates was within the control limit of 20%. If the result of the sample or replicate is below the CRDL, replicate analysis is negligible.

**Flagging Codes:** None

**Nonconformance/Corrective Action Report (NC/CAR):** N/A

**Sample Calculation:** The final results are calculated by the following equation:

Final result for aqueous samples ( $\mu\text{g}/\text{sample}$ ) = (A) x (B) x (C)

Where:

A = Analyte concentration from instrument determination ( $\mu\text{g}/\text{L}$ )

B = Concentration factor from sample preparation

=  $\frac{\text{Final Volume of Digestate (L)}}{\text{Sample}}$

Sample

C = Dilution performed at time of analysis

Example Calculation:  $(1 \mu\text{g}/\text{L}) \times (0.025 \text{ L}/\text{sample}) \times (1) = 0.025 \mu\text{g}/\text{sample}$

**Miscellaneous Comments:** None.



# Report Page

Page 4 of 8

Report Identification Number: 06I-0081-01  
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 Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby  
 Laboratory Identification Number: DCHM  
 SAF#: RC-001 / R37200 1000  
 Payroll#: 8C292

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Beryllium µg/sample		Beryllium µg/m³		Air Volume L	
J10R48	06I00592	11 Jan 2006	<0.01	U	<0.0075	U	1330.	
J10R47	06I00593	11 Jan 2006	<0.01	U	<0.0065	U	1540.	
J10R50	06I00594	11 Jan 2006	<0.01	U	<0.0074	U	1354.	
J10R45	06I00595	11 Jan 2006	<0.01	U	**		**	
J10R46	06I00596	11 Jan 2006	<0.01	U	**		**	
Limit of Detection (LOD)			0.01					
Required Detection Limit (RDL)								

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Lead µg/sample		Lead µg/m³		Cadmium µg/sample	
J10R48	06I00592	11 Jan 2006	<0.5	U	<0.38	U	<0.06	U
J10R47	06I00593	11 Jan 2006	<0.5	U	<0.32	U	<0.06	U
J10R50	06I00594	11 Jan 2006	<0.5	U	<0.37	U	<0.06	U
J10R45	06I00595	11 Jan 2006	<0.5	U	**		<0.06	U
J10R46	06I00596	11 Jan 2006	<0.5	U	**		<0.06	U
Limit of Detection (LOD)			0.5				0.06	
Required Detection Limit (RDL)								

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Cadmium $\mu\text{g}/\text{m}^3$	
J10R48	06I00592	11 Jan 2006	<0.045	U
J10R47	06I00593	11 Jan 2006	<0.039	U
J10R50	06I00594	11 Jan 2006	<0.044	U
J10R45	06I00595	11 Jan 2006	**	
J10R46	06I00596	11 Jan 2006	**	
Limit of Detection (LOD)				
Required Detection Limit (RDL)				



## Report Page

Page 5 of 8

U - Parameter not detected above LOD.

J - Parameter between LOD and RDL.



## QC Summary Page

Page 6 of 8

Report Identification Number: 06I-0081-01  
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Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby  
Laboratory Identification Number: DCHM  
SAF: RC-001 / R37200 1000  
Payroll#: 8C292

Batch ID: G060900M

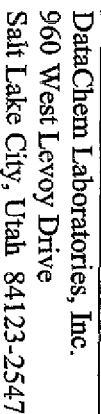
QC Sample ID	QC Type	Analyte	Units	Result	Parent Result	Target	Percent Rec.	Relative Percent Diff.
BL-239888-1	MB	Beryllium	µg/sample	ND	NA	NA	NA	NA
BL-239888-1	MB	Lead	µg/sample	ND	NA	NA	NA	NA
BL-239888-1	MB	Cadmium	µg/sample	ND	NA	NA	NA	NA
QC-239888-1	LCS	Beryllium	µg/sample	9.97	NA	10.0	99.7	NA
QC-239888-1	LCS	Lead	µg/sample	99.0	NA	100.	99.0	NA
QC-239888-1	LCS	Cadmium	µg/sample	29.9	NA	30.0	99.6	NA
QD-239888-1	LCSD	Beryllium	µg/sample	10.4	9.97	10.0	104.	3.82
QD-239888-1	LCSD	Lead	µg/sample	104.	99.0	100.	104.	4.60
QD-239888-1	LCSD	Cadmium	µg/sample	31.1	29.9	30.0	104.	4.13

MB - Method Blank  
LCS - Laboratory Control Sample  
LCSD - Laboratory Control Sample Duplicate  
MS - Matrix Spike  
MSD - Matrix Spike Duplicate  
LD - Laboratory Duplicate

NA - Not Applicable  
ND - Parameter not detected above LOD

LCS, LCSD Percent Rec. = (Result / Target) \* 100.0  
MS, MSD Percent Rec. = ((Result - Parent) / Target) \* 100.0

LCS, LCSD Relative Percent Diff. = ( (|LCS - LCSD|) / ((LCS + LCSD)/2.0) ) \* 100.  
MS, MSD Relative Percent Diff. = ( (|MS - MSD|) / ((MS + MSD)/2.0) ) \* 100.  
LD Relative Percent Diff. = ( (|Parent - LD|) / ((Parent + LD)/2.0) ) \* 100

Page 1 of 2WCH-SH-202 (08/19/2005)

**Phone: (801) 266-7700**  
**FAX: (801) 268-9992**

Web Page: [www.datachem.com](http://www.datachem.com)  
E-mail: [lab@datachem.com](mailto:lab@datachem.com)



Enter on line below the first Sample Number from Page One:

570848

[illegible]

REVIEWED BY:

DATE:

PRINT/SIGN NAME

WCH-SH-202 (08/29/2005)

2 of 2



Enter on line below the first Sample Number from Page One:

J10R48

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			
SIGN / PRINT NAMES / USE MILITARY TIME			
Relinquished By/Stored:	DATE / TIME:	Received By/Stored:	DATE / TIME:
<i>Clifford Bates</i> CLIFFORD BATES	1-5-06 1600	LOCKED DRAWER Rm16 3746 Bldg.	1-5-06 1600
Relinquished By/Stored:	DATE / TIME:	Received By/Stored:	DATE / TIME:
<i>Locked Drawer Rm16, Bldg 3746</i>	1/9/06 1430	<i>R2 Steffler R.J. Steffler</i>	1-9-06 1430
Relinquished By/Stored:	DATE / TIME:	Received By/Stored:	DATE / TIME:
<i>R2 Steffler R.J. Steffler</i>	1-9-06 1500	Fed Ex	
Relinquished By/Stored:	DATE / TIME:	Received By/Stored:	DATE / TIME:
Relinquished By/Stored:	DATE / TIME:	Received By/Stored:	DATE / TIME:
Relinquished By/Stored:	DATE / TIME:	Received By/Stored:	DATE / TIME:
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Relinquished By/Stored:	DATE / TIME:	Received By/Stored:	DATE / TIME:
Relinquished By/Stored:	DATE / TIME:	Received By/Stored:	DATE / TIME:
LABORATORY SECTION	Received By	Title	DATE / TIME

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PRINT/SIGN NAME